PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

Vol. XXIV, No. 12, pp. 485–519 January 26, 1950

CONTRIBUTIONS TOWARD A KNOWLEDGE OF THE INSECT FAUNA OF LOWER CALIFORNIA

No. 12

COLEOPTERA: CLERIDAE

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INTRODUCTION

The present paper is primarily based on material collected during recent expeditions of the California Academy of Sciences. In 1938, A. E. Michelbacher and E. S. Ross made a round trip through the peninsula, and in 1941, Ross and G. E. Bohart made a similar trip and in addition explored one of the mountain ranges of the Cape Region. A few specimens from the 1921 expedition which have not as yet been recorded are also being considered in this paper. Material from the W. M. Mann expeditions of 1923 and Beyer's collections made during 1901 have also been incorporated. Specimens have thus been utilized from all sources available to the writer in order to provide as complete a list as possible.

Forty-one species (six of which are described as new) and two subspecies are treated in the present paper. Ten previously known species and subspecies are recorded from Lower California for the first time. Over one-third of the species and subspecies treated are thus new additions to the Cleridae of this region. This fact certainly indicates that very little is known of this family in this interesting peninsula and that future collections should yield additional new material which may help to throw new light on the origin and distribution of the Lower California Cleridae.

DISTRIBUTION

Nearly one-half of the species known to occur in Lower California are endemic to the peninsula, several of these being restricted to the subtropical Cape Region. As pointed out by Linsley (1942) this apparently high endemism may be considerably reduced as soon as the fauna of the western coast of the Mexican mainland is made known. Thus it is apparent that, from the few species at hand, very little can be said concerning the origin and distribution of the Lower California clerid fauna.

The great majority of the Cleridae from the peninsula appear to be related to or to form a part of the true Sonoran fauna. Many species commonly found in the southwestern United States are present for a considerable distance down this peninsula, several of these even ranging into the Cape Region; such species would include: *Monophylla californica* (Fall), *Cymatodera puncticollis* Bland, *Lecontella gnara* Wolcott, *Enoclerus quadrisignatus* (Say), and *Phyllobaenus cribripennis* (Fall). Another group of species consists of those which are of Sonoran origin in Lower California itself and have dispersed into the southwestern United States from the peninsula. These include: *Cymatodera delicatula* Fall, *C. peninsularis* Schaeffer, and *C. santarosae* Schaeffer. The third group of clerids is composed of those which are endemic to this peninsula and yet are clearly related to the Sonoran stock of the southwest. *Cymatodera picipennis* Barr is one such species.

No clerid elements of the Vancouveran fauna have as yet been taken in Lower California. The mountains near the California border, upon thorough exploration, should yield several examples of Vancouveran Cleridae. The Californian fauna is poorly represented in the collections from Lower California. When the northern part of the peninsula is more intensively studied, additional elements of this fauna will undoubtedly be found. Perhaps the best example of a Californian species is *Loedelia maculicollis* (LeConte), which ranges nearly to the southernmost limits of this fauna.

The most complex and interesting of the Lower Californian faunas is that of the Cape Region and the humid river valleys and oases of the southern half of the peninsula. This can be classified as subtropical. Although attempting to draw conclusions from the few species of clerids found in this region is difficult, several generalizations may be made. The Cape Region is supposedly older than any of the other regions of the peninsula; this is clearly evident when it is seen that several of its endemic species are most closely related to species widely separated geographically from the Cape Region: *Cymatodera cephalica* Schaeffer is allied to *C. ovipennis* LeConte of California; *Aulicus humeralis* Linsley is related to *A. thoracicus* Schenkling of the Mexican mainland; and *Trichodes peninsularis* Horn is closely related to *T. horni* Wolcott and Chapin of Arizona. The members of the subfamily Enopliinae occurring in Lower California are restricted to the Cape Region and nearly all of them are either species that occur in Texas and the south-

eastern United States or are most closely related to species occurring in these same regions. Only one example of the Cape Region Cleridae can be classed as truly neotropical; this is *Callotillus elegans elegans* (Erichson). Another interesting group of species is made up of those which appear to have had their origin in the Cape Region and have spread northward into the more arid areas of the peninsula or the United States. These include *Cymatodera xanti* Horn, *C. fascifera* LeConte, *Aulicus fissipes* Schaeffer, and *Phyllobaenus omoger* (Horn).

METHODS

The procedure followed in this paper has been the systematic listing of all the species of Cleridae known to occur in Lower California and the adjacent islands, with bibliography, distribution, and keys to the subfamilies, genera, and species. For convenience, a key to all of the known subfamilies of Cleridae has been included. The source of each previous record has been indicated by identical numbers appended to the localities, etc., and the corresponding bibliographical citations.

In acknowledging collectors in the body of the text, Michelbacher and Ross will be found cited as (M&R) and Ross and Bohart as (R&B).

The holotypes and allotypes of new species have been deposited in the California Academy of Sciences. Paratypes will be found in the collections of the California Academy of Sciences and of the writer.

ACKNOWLEDGMENTS

The writer is especially indebted to Dr. E. G. Linsley, under whom this study was made at the University of California, for his valuable assistance and suggestions.

To Dr. E. S. Ross, Dr. A. E. Michelbacher, and Dr. G. E. Bohart, the writer is indebted for the privilege of studying material collected by them. To Dr. E. A. Chapin of the United States National Museum, thanks are sincerely given for the opportunity of studying material from the Mann expeditions and also material from the Schaeffer collection.

Dr. E. C. Van Dyke, Mr. A. B. Wolcott, and Mr. Henry S. Dybas have been very helpful in offering notes and comments and this is gratefully acknowledged.

TAXONOMY

KEY TO THE SUBFAMILIES OF THE FAMILY CLERIDAE

1. Fourth segment of tarsus approximately equal in size to third segment.....2
—Fourth segment of tarsus small, usually indistinct, embedded between the lobes of the third segment 5
2. Anterior coxal cavities always open internally, usually opened externally.....3
—Anterior coxal cavities completely closed externally and internally; first tarsal segment distinctly visible from above.....**Tillinae**

3. Anterior tarsi of usual form; eyes usually distinctly emarginate; thoracic puncture circular 4
—Anterior tarsi broadly dilated, tarsal segments short and compact; eyes nearly entire; thoracic punctures elongate-oval, not circular ..... **Thaneroclerinae**
4. Eyes deeply emarginate; first tarsal segment small, covered by the second segment **Clerinae**
—Eyes entire or virtually so; first tarsal segment variable ..... **Phyllobaeninae**
5. Anterior tibiae not spinulose, sometimes finely serrate; thorax without sensory setae; eyes emarginate in front 6
—Anterior tibiae spinulose; thorax with a pair of discal and a pair of lateral sensory setae; eyes emarginate internally ..... **Epiphloeinae**
6. Antennae serrate or with the terminal three segments long, forming a lax club, which is longer than the preceding segments together ..... **Enopliinae**
—Antennae with terminal three segments short and compact or forming a more or less lax club which may be as long as the preceding segments together ..... **Korynetinae**

SUBFAMILY **TILLINAE**

KEY TO GENERA OF TILLINAE OF LOWER CALIFORNIA

1. Antennae with less than eleven segments 2
—Antennae with eleven segments 3
2. Antennae of male with eight segments, that of female with nine segments ... **Monophylla**
—Antennae of male and female consisting of ten segments ..... **Callotillus**
3. Front of head without horns; elytra with striated punctures 4
—Front of head with prominent pair of horns arising from in front of eyes; elytra without striated punctures ..... **Bostrichoclerus**
4. Eleventh antennal segment elongate, cylindral-acuminate, at least longer than the two preceding segments ..... **Lecontella**
—Eleventh antennal segment oval and pointed, shorter than the two preceding segments **Cymatodera**

Genus **Monophylla**

(1) **Monophylla californica** (Fall)

Elasmocerus californicus Fall, 1901, Occ. Pap. Calif. Acad. Sci., 8:251[1]; Snow, 1906, Trans. Kansas Acad. Sci., 20:168[2].

Macrotelus californicus, Beyer, 1904, Journ. New York Ent. Soc., 12:30[3]; Schenkling, 1907, Deutsche Ent. Zeitschr., 6:301[4].

Monophylla californica, Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):341[5]; Schaeffer, 1911, Journ. New York Ent. Soc., 19:122; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3): 51[6]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:270[7]; 1927, Coleopt. Contr., 1(1):9[8].

Monophylla substriata Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):340[9]; Schaeffer, 1911, Journ. New York Ent. Soc., 19:123; Wolcott, 1927, Coleopt. Contr., 1(1):10.

This is the only member of this genus known to occur in Lower California, eight specimens have been seen from this region by the writer. *M. californica* is quite variable in coloration throughout its wide range and the Lower California specimens examined also show such variation. One specimen has black elytra with a whitish median fascia which does not reach the suture. In another specimen the basal half of the elytra is rufotestaceous, with a slightly paler, faintly indicated median fascia; the apical half of the elytra is brown with the subapical spots barely perceptible.

Type locality: "Middle and Southern California"[11].

Recorded distribution: western United States: Oregon[6,8], Utah[8,9], California[1,5,6,7,8], Arizona[2,5,6,7,8]; Lower California[5,6,8]: Santa Rosa[3,7]; Mexico[4,5]; Costa Rica[4,5,6].

New records: Lower California: Seven miles south of El Marmol, June 18, 1938, (M&R); San Domingo, July 19, 1938, (M&R).

In addition to the two specimens collected by Michelbacher and Ross, several examples collected by Beyer at Santa Rosa (Univ. California and U. S. National Mus. Colls.) have been seen.

Genus **Callotillus**

KEY TO SUBSPECIES OF CALLOTILLUS OF LOWER CALIFORNIA

1. Pronotum black, coarsely punctured; basal half of elytra, except for subbasal ivory spots, black ..... **elegans elegans**
—Pronotum rufous, finely punctured; basal half of elytra, except for subbasal ivory spots, rufous ..... **elegans vafer**

(2) **Callotillus elegans elegans** (Erichson), new status

Tillus elegans Erichson, 1847, Archiv. Naturgesch., 13:85[1]; Schenkling, 1903, Deutsche Ent. Zeitschr., 1&2:12; 1907, Deutsche Ent. Zeitschr., 6:302[2]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):52[3].

Callotillus elegans, Wolcott, 1921, Proc. U. S. Nat. Mus., 59:270[4]; 1927, Coleopt. Contr., 1(1):3[5]; Corporaal, 1942, Beitraege Fauna Perus, 2(13); 135[6].

Tillus occidentalis Gorham, 1882, Biol. Centr.-Amer., Coleopt., 3(2):129[7]; Horn, 1885, Trans. Am. Ent. Soc., 12:151[8]; 1894, Proc. Calif. Acad. Sci., (2)4:330[9]; Schenkling, 1903, Deutsche Ent. Zeitschr., 1&2:12; Beyer, 1904, Journ. New York Ent. Soc., 12:30[10].

This widespread species appears to be restricted to the tropical and subtropical regions of North and Central America and the northern part of South America. The specimens examined from Lower California were taken in the humid river valleys and oases of the central part of the peninsula or in the subtropical Cape Region. Contrary to previous opinion, the coloration and punctuation of this species appear to be rather variable, the black basal half of the elytra of some individuals may possess, in addition to the basal ivory spots, a rufous area, extending from the basal spot to the median fascia. This area does not attain the lateral margin or the suture. In one specimen the basal half of the elytra is entirely black, the basal spots having been eliminated. The thoracic punctuation is very coarse and dense in most specimens; however, in a few examples it becomes rather sparse and moderate in coarseness.

Type locality: "Eastern Peru"[11].

Recorded distribution: southwestern United States: Arizona[3,8,9], Texas[3,4,8,9]; Lower California[3,9]: Santa Rosa[4,10]; Mexico[2,3,7,9]; Central America[2]: Guatemala[2,3,7], Nicaragua[3,5,7,9]; South America[2]: Peru[1,2,3,6].

New records: Lower California: 25 miles south of Santa Rosalia, July 25,

1938, (M&R); Comondu, July 22, 1938, (M&R); Loreto, May 19, 1921, (Van Duzee); San Pedro, October 7, 1941, (R&B).

Eight specimens from Santa Rosa (Calif. Acad. Sci. and U. S. National Mus. Colls.) collected by Beyer and one specimen, labeled "L. Cal." (Univ. California Coll.) have also been seen.

(3) **Callotillus elegans vafer** Wolcott, new status

Callotillus vafer Wolcott, 1921, Proc. U. S. Nat. Mus., 59:270[1]; 1947, Fieldiana: Zoology, 32(2):67[2].

Tillus elegans, Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):52[3].

Callotillus e. vafer is separated from the nominate subspecies by having the pronotum and basal half of the elytra rufous instead of black and the punctuation of the pronotum sparse and fine instead of dense and coarse. Intergradations of these characters have been seen in specimens from Lower California and southern California. The pronotal punctuation of some specimens of *vafer* is rather dense and rather coarse, tending towards some individuals of *elegans* which have nearly similar punctuation. Also, the disk of the pronotum may be black in some examples of *vafer,* thus indicating another trend towards *elegans.* As noted previously, *elegans* may bear rufous areas on the basal half of the elytra.

The subspecies *vafer* is apparently restricted to the arid desert regions of Lower California and the southwestern United States, whereas the subspecies *elegans* is recorded from the more tropical and subtropical regions of North and Central America and the northern part of South America.

Thus, the two appear to be rather distinct geographical replacements of one another. For this reason, coupled with the apparent intergradation of the critical characters, the writer is of the opinion that these previously regarded species are subspecies and is treating them as such.

Type locality: Fort Yuma (California), opposite Yuma, Arizona[1].

Recorded distribution: southwestern United States: California[1], Arizona[2], New Mexico[3].

New records: Lower California: Chapala Dry Lake, June 21, 1938, (M&R), 10 miles south of Punta Prieta, June 21, 1938, (M&R).

Genus **Cymatodera**

KEY TO SPECIES OF CYMATODERA OF LOWER CALIFORNIA

1. Antennal segments two to ten equal or nearly equal in length (second segment may be slightly shorter than third) 2
—Antennal segments two to ten, distinctly not all of equal length 11
2. Hind wings reduced or wanting; base of elytra scarcely wider than base of pronotum; humeri indistinct 3
—Hind wings normal (reduced in *intermedia*); base of elytra distinctly wider than base of pronotum; humeri distinct 4

3. Pronotum castaneous with metallic tinge; elytra light brown at base, gradually becoming testaceous at apex, interrupted by paler median fascia ..... **purpuricollis**
—Pronotum dark brown, without metallic tinge; elytra uniformly brown except for paler median fascia ..... **cephalica**
4. Medium size, never more than 13 mm. in length; elytral striae not paired 5
—Large size, never less than 16 mm. in length; elytral striae arranged in pairs **californica**
5. Pronotum finely punctured or transversely wrinkled; metasternum not coarsely punctured 6
—Pronotum and metasternum deeply and coarsely punctured ..... **longula**
6. Elytra with or without pale median fascia; last abdominal tergite narrower than last sternite 7
—Elytra with both basal and median fasciae; last abdominal tergite broader than last sternite ..... **fascifera**
7. Body and legs with long erect hairs; elytra with a distinct median fascia 8
—Body and legs sparsely pubescent, without long erect hairs; elytra with or without an indistinct median fascia 9
8. Dark testaceous; median fascia on elytra very broad, arcuate, widest at middle of each elytron ..... **punctata**
—Dark brown; median fascia on elytra of uniform width, angulate ..... **minacis**
9. Elongate; hind wings normal; pronotum with distinct ante-scutellar impression 10
—Robust; hind wings reduced to pads; pronotum without ante-scutellar impression **intermedia**
10. Piceous or dark brown; elytral striae distinctly present on basal two-thirds .. **santarosae**
—Brown; elytral striae present on basal third ..... **oblita**
11. Antennal segments two, three and four of equal length, each shorter than any of segments five to ten 12
—Antennal segments two, three and four not all of equal length 13
12. Dark brown; elytral fascia narrow, interrupted before suture ..... **puncticollis**
—Brown or light brown; elytral fascia broad, not interrupted at suture ..... **delicatula**
13. Third antennal segment shorter than fourth segment 14
—Third antennal segment as long or slightly longer than fourth segment 17
14. Pronotum finely, sparsely punctured 15
—Pronotum rugosely, coarsely punctured; elytra with apical third slightly or distinctly darkened ..... **latefascia**
15. Testaceous, with dark elytral markings 16
—Uniformly castaneous ..... **xanti**
16. Elytra with small, elongate subapical dark spots along suture and lateral margins **isabellae**
—Elytra with a broad, dark median fascia and a broad, dark subbasal fascia which are often united along suture ..... **peninsularis**
17. Pronotum coarsely punctured or moderately punctured and rugose 18
—Pronotum finely, sparsely punctured 19
18. Pronotum and metasternum coarsely, densely punctured; elytra with a pale median fascia which may be faintly indicated ..... **longula**
—Pronotum moderately punctured, rugose; metasternum nearly smooth; elytra with both basal and median pale fasciae ..... **fascifera**
19. Piceous with slightly paler elytral markings; outer antennal segments cylindrical, slightly incrassate ..... **picipennis**
—Testaceous with dark elytral markings; outer antennal segments normally flattened, distinctly serrate ..... **peninsularis**

(4) **Cymatodera puncticollis** Bland

Cymatodera puncticollis Bland, 1863, Proc. Ent. Soc. Phila., 1:356[1]; Horn, 1876, Trans. Am. Ent. Soc. 5:222[2]; 1894, Proc. Calif. Acad. Sci., (2)4:331[3]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:271[4].

This well-known species is commonly found throughout the Southwest and is frequently attracted to lights in considerable numbers. It was apparently rather uncommon during the Academy expeditions to Lower California, only about thirty specimens having been collected. Although these were taken only in the southern half of the peninsula, it undoubtedly occurs in the northern half as well. The specimens examined are all quite constant in coloration, being the typically dark brown and exhibiting but slight differences in size.

Type locality: "Western Texas"[1].

Recorded distribution: Southwestern United States: Texas[1,2], New Mexico[2], Arizona[2,3,4], California[2,3]; Lower California[2,3]: Cape San Lucas[2].

New records: Lower California: 45 miles north of San Ignacio, July 27, 1938, (M&R); 15 miles north of San Ignacio, July 26, 1938, (M&R); 20 miles north of Comondu, July 23, 1938, (M&R); 15 miles west of San Miguel, July 20, 1938, (M&R); San Domingo, July 19, 1938, (M&R); 15 miles north of El Refugio, July 4, 1938, (M&R); Venancio, July 17, 1938, (M&R); 15 miles west of La Paz, July 5, 1938, (M&R); La Paz, October 7, 1941, (R&B); Triunfo, July 7, 1938, (M&R); five miles north of Miraflores, July 10, 1938, (M&R); five miles south of Miraflores, July 10, 1938, (M&R); 10 miles southwest of San Jose del Cabo, July 9, 1938, (M&R); eight miles northeast of Cape San Lucas, July 10, 1938, (M&R).

(5) **Cymatodera delicatula** Fall

Cymatodera delicatula Fall, 1906, Can. Ent., 38(4):113[1]; Wickham and Wolcott, 1912, Bull Lab. Nat. Hist. Univ. Iowa, 6(3):52[2]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:272[3]; 1947, Fieldiana: Zoology, 32(2):69[4].

This was by far the most abundant species of *Cymatodera* encountered during the two recent Academy expeditions, over one hundred specimens having been taken. These exhibit a considerable size range (2.75 mm. to 4.75 mm.) along with an interesting elytral color variation. In one extreme, the basal and apical brown areas are very dark brown, separated by a slightly paler, broad ante-median fascia, while the other extreme presents a uniformly pale testaceous elytra with a narrow, brown, subapical fascia extending from the lateral margins very slightly forward to the suture. These color forms, while very different in appearance, are merely extremes, for all intergradations between the two are evident.

In addition to the characters given in the key, *C. delicatula* may be further separated from *C. puncticollis,* its closest relative, by having the outer antennal segments more strongly incrassate apically.

Type locality: Santa Rosa, Lower California[1].

Recorded distribution: California[4], Arizona[3,4]; Lower California: Santa Rosa[1]; Mexico: Durango[2].

New records: Lower California: San Quentin, August 2, 1938, (M&R); San Fernando, July 31, 1938, (M&R); El Marmol, September 24, 1941, (R&B); 10 miles south of Catavina, July 29, 1938, (M&R); 15 miles north of Punta Prieta, July 29, 1938, (M&R); 45 miles north of San Ignacio, July 27, 1938, (M&R); 20 miles north of Comondu, July 23, 1938, (M&R); Comondu, July 22, 1938, (M&R); 15 miles west of San Miguel, July 20, 1938, (M&R); five miles south of San Miguel, July 20, 1938, (M&R); 15 miles southeast of Arroyo Seco, July 16, 1938, (M&R); 15 miles west of La Paz, July 5, 1938 (M&R); six miles north of Triunfo, July 15, 1938, (M&R); five miles south of Miraflores, July 10, 1938, (M&R); San Felipe, July, 1901, (Beyer). Gulf of California: Pond Island Bay, Angel de la Guardia Island, June 20, 1921, (Van Duzee).

In addition to the above localities specimens from Santa Rosa (Beyer) have been seen.

(6) **Cymatodera latefascia** Schaeffer

Cymatodera latefescia Schaeffer, 1904, Journ. New York Ent. Soc., 12(4):216[1]; 1908, Journ. New York Ent. Soc., 16(3):129; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:275[2].

This species has not been recorded previously from Lower California. Two specimens were collected by Michelbacher and Ross below the southern half of the peninsula and they have been assigned to this species with some doubt, for they present a rather extreme variation in the markings of *C. latefascia.* However, until additional material can be examined, they are retained under this specific name. In these specimens the elytra are uniformly testaceous with a broad, slightly darker, ante-median fascia which is not interrupted at the suture. The apices of the elytra are slightly paler. The other characters appear to be the same as in true *latefascia.*

These two specimens bear a slight resemblance to *C. cylindricollis* Chevrolat, a Mexican mainland species.

Type locality: Camp Grant, Arizona[1].

Recorded distribution: southwestern United States: Arizona[1,2], New Mexico[1].

New records: Lower California: 20 miles north of Comondu, July 23, 1938, (M&R); Comondu, July 22, 1938, (M&R).

(7) **Cymatodera xanti** Horn

Cymatodera xanti Horn, 1876, Trans. Am. Ent. Soc., 5:222[1]; 1894, Proc. Calif. Acad. Sci., (2)4:331[2]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:286; 1947, Fieldiana: Zoology, 32(2):71[3].

This distinctive species is endemic to the Lower California peninsula and is rather widespread there. The writer knows of no *Cymatodera* with which it could be confused. A series of seventy-nine specimens collected primarily by the Michelbacher and Ross expedition presents a range in size of from 5.5 mm to 11.5 mm. Within this series the color varies from a uniformly pale castaneous to a uniformly dark castaneous; the paler condition appears more frequently in the smaller individuals.

Type locality: Cape San Lucas, Lower California[1].

Recorded distribution: Lower California: Cape San Lucas[1,2]; Mexico[3].

New records: Lower California: San Fernando, July 31, 1938, (M&R); 15 miles north of Punta Prieta, July 29, 1938, (M&R); 10 miles north of Punta Prieta, July 29, 1938, (M&R); Angeles Bay, June 25, 1921, (Van Duzee); 15 miles north of San Ignacio, July 26, 1938, (M&R); Coyote Cove, Conception Bay, July 24, 1938, (M&R); Comondu, July 21, 1938, (M&R); 15 miles north of El Refugio, July 4, 1938, (M&R); Venancio, July 17, 1938, (M&R); 15 miles west of La Paz, July 5, 1938, (M&R); Miraflores, July 8, 1938, (M&R); 10 miles southwest of San Jose del Cabo, July 9, 1938, (M&R). Gulf of California: Marquer Bay, Carmen Island, May 23, 1921, (Van Duzee).

(8) **Cymatodera peninsularis** Schaeffer

Cymatodera peninsularis Schaeffer, 1904, Journ. New York Ent. Soc., 12(4):214[1]; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):346[2]; 1921, Proc. U. S. Nat. Mus., 59:286.

This distinctively marked and well-known species ranges throughout the peninsula. However, only thirty-two examples have been examined from Lower California, including two of Schaeffer's paratypes from San Felipe. As in most maculate *Cymatodera*, *peninsularis* presents considerable variation in color. One specimen has the elytra black with two, broad, indistinct ante-median fasciae, extending inward only slightly from the lateral margins, along with a pale subapical spot on each elytron. Another specimen has an elongate, brown scutellar spot along the suture and elongate, post-median spots along the suture and lateral margins of each testaceous elytron. Again, these represent the extremes of markings that have been found in this species, for all of the intergrading forms between these two are present in the rather small series examined. The third segment of the antenna also exhibits some variation. In certain specimens it is as long as the fourth segment, while in others it is distinctly shorter than the fourth segment.

Type locality: San Felipe, Lower California[1].

Recorded distribution: Arizona[2]; Lower California: San Felipe[1,2].

New records: Lower California: 17 miles south of Ensenada, June 14, 1938, (M&R); San Felipe, June 1939, (Ross); San Fernando, July 31, 1938, (M&R); 15 miles north of Punta Prieta, July 29, 1938, (M&R); 45 miles north of San Ignacio, July 27, 1938, (M&R); 15 miles west of San Miguel, July 20, 1938, (M&R); five miles south of San Miguel, July 20, 1938, (M&R);

San Domingo, July 19, 1938, (M&R); 15 miles north of El Refugio, July 4, 1938, (M&R); Venancio, July 17, 1938, (M&R); 15 miles southeast of Arroyo Seco, July 16, 1938, (M&R).

The type locality, San Felipe, is located in the Cape Region, whereas the San Felipe cited above under new records is located on the extreme northwest shore of the Gulf of California.

(9) **Cymatodera picipennis** Barr, new species

Female: Medium size, somewhat elongate; piceous; pronotum faintly paler at sides and across middle; elytra with brownish subapical spots, right elytron with a broad, faintly indicated, brownish ante-median area along lateral margin at middle; undersurface dark testaceous. *Head* finely, rather sparsely punctured, finely wrinkled at base, sparsely clothed with short, erect brownish hairs; front feebly bi-impressed; antennae brown, rather stout, reaching basal fourth of elytra, second segment two-thirds as long as third, third segment slightly longer than fourth, segments five to ten nearly equal in length, longer than those preceding, cylindrical, outer margin of each of these segments broadly rounded, slightly incrassate at apex. *Pronotum* one-third longer than basal width; surface finely, sparsely punctured, sparsely clothed with short, fine pale hairs, intermixed with rather long, erect brown hairs; ante-scutellar impression wanting. *Elytra* two and one-half times longer than basal width, nearly twice as wide as pronotum at base; humeri distinct; sides widest behind middle; apices nearly conjointly rounded; surface with striae consisting of fine punctures, extending to subapical spots, interspaces much wider than punctures, sparsely clothed with short, sub-erect pale hairs. *Legs* dark testaceous, piceous at apices of femora and bases of tibiae, finely, densely punctured, rather densely clothed with short, brown hairs; middle tibiae dark. *Metasternum* finely and very sparsely punctured. *Abdomen* finely, densely punctured; fifth sternite rounded at apex, deeply incised at middle; sixth sternite narrowly rounded at apex; sixth tergite longer and broader than sixth sternite, narrowly rounded at apex. Length: 7 mm.

Holotype, female (C. A. S. No. 5622) from **Venancio,** July 17, 1938, collected by Michelbacher and Ross.

C. picipennis belongs to the Xanti group in Wolcott's key* and will run to *C. tuta* Wolcott and *C. laevicollis* Schaeffer. It may be separated from these two species by the dark piceous color with the brown, subapical elytral spots and by the structure of the antennae.

This species is described from a single female which is in a somewhat damaged condition, the left antenna is broken off at the fourth segment, one of the hind legs is missing and several of the tarsi are gone. However, the critical characters are present and the species appears to be sufficiently distinct to warrant a name at this time.

* Wolcott, A. B., 1921, Proc. U. S. Nat. Mus., 59:286.

(10) **Cymatodera isabellae** Wolcott

Cymatodera isabellae Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):345[1]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):52[2]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:285; 1947, Fieldiana: Zoology 32(2):69[3].

A single specimen of this species has been examined from Lower California, providing the first record of its occurrence in this region. It does not differ from specimens examined from localities in the southwestern United States except for the subapical dark spots which are paler than those found on typical specimens of *isabellae*.

Type locality: St. George, Utah[1].

Recorded distribution: Southwestern United States: Utah[1,2]; Arizona[3].

New records: Lower California: 12 miles south of Santa Rosalia, June 27, 1938, (M&R).

(11) **Cymatodera fascifera** LeConte

Cymatodera fascifera LeConte, 1866, Smiths. Misc. Coll., (167):95[1]; Horn, 1876, Trans. Am. Ent. Soc., 5:225[2]; 1894, Proc. Calif. Acad. Sci., (2)4:331[3]; Schaeffer, 1917, Journ. New York Ent. Soc., 25(2):130; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:286.

This interesting species of *Cymatodera,* one of the few that has the last dorsal abdominal segment overlapping the last ventral abdominal segment, has been taken in rather large numbers throughout the peninsula, especially in the southern half. Over seventy specimens have been examined, most of which were collected by Michelbacher and Ross. This is the only species of *Cymatodera* occurring in Lower California that has both a pale basal band and a pale median fascia, the basal band, however, may only be faintly indicated in some individuals. The color of the elytra ranges from a light brown to piceous, the majority of specimens tending towards the darker color.

Type locality: Cape San Lucas, Lower California[1].

Recorded distribution: Lower California: Cape San Lucas[1,2,3].

New records: Lower California: San Quentin, August 2, 1938, (M&R); San Fernando, July 31, 1938, (M&R); 15 miles north of San Ignacio, July 26, 1938, (M&R); 25 miles south of Santa Rosalia, July 25, 1938, (M&R); Coyote Cove, Conception Bay, July 24, 1938, (M&R); Purisima, October 1923, (W. M. Mann); Comondu, July 17, 1938, (M&R); San Miguel, July 3, 1938, (M&R); 15 miles west of San Miguel, July 20, 1938, (M&R); five miles south of San Miguel, July 20, 1938, (M&R); San Domingo, July 19, 1938, (M&R); 15 miles north of El Refugio, July 4, 1938, (M&R); Venancio, July 17, 1938, (M&R); October 8, 1941, (R&B); 15 miles southeast of Arroyo Seco, July 16, 1938, (M&R); 15 miles west of La Paz, July 5, 1938, (M&R); six miles north of Triunfo, July 15, 1938, (M&R); Triunfo, July 13, 1938, (M&R); five miles west of San Bartolo, July 13, 1938, (M&R); Miraflores,

July 8, 1938, (M&R); El Taste; Santa Rosa; 10 miles southwest of San Jose del Cabo, July 9, 1938, (M&R). Gulf of California: Marquer Bay, Carmen Island, May 23, 1921, (Van Duzee).

(12) **Cymatodera californica** Horn

Cymatodera californica Horn, 1868, Trans. Am. Ent. Soc., 2:134[1]; Schaeffer, 1905, Mus. Brooklyn Inst. Arts Sci., Bull., 1(7):152[2]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:278[3].

No specimens of this species from Lower California have been seen by the writer, the record of its occurrence being based on the report by Schaeffer of Beyer's record of collecting it in Lower California. This may be an error as Beyer apparently confined his collecting to the Cape Region and *C. californica* does not appear to be either a true Sonoran or subtropical species. However, it probably does occur in the mountains of the northern part of the peninsula near the California border. *C. californica* is quite distinct because of its large size and paired elytral striae and could not be confused with any *Cymatodera* now recorded from Lower California.

Type locality: "Southern California"[1].

Recorded distribution: southwestern United States: California[1,2,3], Arizona[2,3]; Lower California[2].

(13) **Cymatodera minacis** Barr, new species

Male: Form elongate; dark brown, feebly shining; conspicuously clothed with short, semi-recumbent ashy hairs, intermixed with long, erect ashy hairs; elytra with a narrow, irregular, pale median fascia. *Head* finely, densely punctured; antennae brunneus, slender, extending slightly beyond humeri, second segment slightly shorter than third, segments three to ten nearly equal in length. *Pronotum* one and two-thirds times as long as width at base; front slightly wider than base; sides with feeble constriction behind front, strongly constricted in front of base; surface rather finely, sparsely punctured; antescutellar impression strongly indicated. *Elytra* one and two-third times as wide as pronotum at base, three times longer than basal width, slightly convex; humeri distinct; sides parallel; apices nearly conjointly rounded, slightly divergent; surface with striae extending to apical four-fifths, strial punctures round, very coarse at base, gradually decreasing in size towards apex, interspaces wider than punctures at base, finely punctulate; median fascia narrow, extending transversely from lateral margins, acutely bent posteriorly at middle, then extending transversely to suture, transverse portions nearest suture in front of transverse portions nearest lateral margins. *Legs* finely, rugosely punctured, conspicuously clothed with short, semi-recumbent and long, erect ashy hairs. *Metasternum* very finely, sparsely punctured; longitudinal carinae present, rather long. *Abdomen* finely, sparsely punctured; fifth sternite broadly and deeply emarginate; sixth sternite pro-

longed, nearly parallel, finely, rugosely punctured, median carina strongly indicated at base, becoming obsolete at apex, sub-marginal carinae strongly indicated, slightly arcuate, lateral margins prolonged at apex, blunt, hind margin slightly thickened, broadly emarginate, truncate at middle; fifth tergite deeply, triangularly emarginate at apex; sixth tergite shorter and narrower than sixth sternite, finely punctured with a broad subapical depression, lateral margins slightly thickened, hind angles narrowly rounded, hind margin triangularly emarginate. Length: 12.5 mm.

Female: Form less elongate, more convex; metasternal carinae absent; fifth abdominal sternite broadly, shallowly emarginate at apex with a semi-rectangular notch at middle; sixth abdominal sternite not prolonged, semicircularly rounded at apex; sixth abdominal tergite semicircularly rounded at apex and feebly notched at middle. Length: 10 mm.

Holotype, male (C. A. S. No. 5623), allotype, female (C. A. S. No. 5624), and five male and 12 female paratypes from **Triunfo,** July 7, 1938. Additional paratypes as follows: one male, 10 miles south of Punta Prieta, June 21, 1938; eight males and two females, San Domingo, July 19, 1938; one male, San Domingo, October 23, 1941; three males and three females, 15 miles north of El Refugio, July 4, 1938; one female, Venancio, July 17, 1938; one female, 15 miles southeast of Arroyo Seco, July 16, 1938; three males and three females, 15 miles west of La Paz, July 5, 1938; three males and one female, six miles north of Triunfo, July 15, 1938; and one male, five miles west of San Bartolo, July 13, 1938. All specimens were collected by Michelbacher and Ross except a paratype from San Domingo which was collected in 1941 by Ross and Bohart.

C. minacis will run to *C. longula* Wolcott in Wolcott's key, but may be readily distinguished from that species by the finely punctured pronotum and metasternum, the dark brown color, and by having the elytra less flattened with the sides parallel. Further, the secondary sexual characters of the males of the two species are quite different; *minacis* has three distinct longitudinal carinae on the prolonged, parallel-sided sixth abdominal sternite, which are lacking on the strongly narrowed, sixth abdominal sternite of *longula. C. minacis* bears a rather close resemblance to *C. santarosae* Schaeffer, another Lower California species, but may be separated by being dark brown instead of piceous in color, by having the elytra parallel-sided and rather conspicuously clothed with long erect hairs and by having the sixth abdominal sternite of the male prolonged and parallel-sided instead of prolonged and arcuately-sided as in *santarosae.*

Apparently *minacis* is more closely related to *C. neomexicana* Knull, which was described from New Mexico; however, the secondary sexual characters of the males may serve to most easily distinguish these species. The last ventral abdominal segment of *minacis* is broadly emarginate, nearly truncate at the apex, whereas it is bisinuately emarginate in *neomexicana.* Further, the lateral margins of the last abdominal segment are more prolonged and pointed

at the apex in *neomexicana* than in *minacis*. Also, the ante-scutellar impression of *minacis* is more strongly indicated and the body is generally more pubescent.

With a single exception, *C. minacis* was taken entirely in the southern third of the peninsula during the recent Academy expeditions. In the paratypic series, it varies but slightly in color, markings, and pubescence. A range of from 8.25 mm. to 12.75 mm. in length, however, is present.

(14) **Cymatodera santarosae** Schaeffer

Cymatodera santarosae Schaeffer, 1905, Mus. Brooklyn Inst. Arts Sci., Bul., 1(7):152[1]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist., Univ. Iowa, 6(3):53[2]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:287.

This species appears to be rather widespread and abundant on the peninsula, nearly sixty specimens having been examined. It was collected most commonly in localities in the southern half of the peninsula. *C. santarosae* may be confused with *C. oblita* Horn on the basis of the strial punctures on the elytra. The extent of the striae on *santarosae* varies somewhat, but the punctures are generally present on the basal two-thirds of the elytra, whereas in *oblita* the striae are evident only at the extreme base of the elytra. *C. oblita* is more slender and parallel-sided than *santarosae;* the character of the last two abdominal sternites of the males of these two species is also quite different.

The specimens of *C. santarosae* examined are nearly all piceous in color; however, several examples are dark brown. Two of Schaeffer's paratypes from Santa Rosa, which have been examined, exhibit this latter color.

Type locality: Santa Rosa, Lower California[1].

Recorded distribution: New Mexico (?)[2]; Lower California[2]: Santa Rosa[1].

New records: Lower California: Hamilton Ranch, August 2, 1938, (M&R); 10 miles south of Catavina, July 29, 1938, (M&R); 15 miles north of Punta Prieta, July 29, 1938, (M&R); Angeles Bay, May 5, 1921, (Van Duzee); Las Animas Bay, May 8, 1921, (J. C. Chamberlin); Mesquital, June 22, 1938, (M&R); 45 miles north of San Ignacio, July 27, 1938, (M&R); 15 miles north of San Ignacio, July 24, 1938, (M&R); 25 miles south of Santa Rosalia, July 25, 1938, (M&R); Coyote Cove, Conception Bay, July 24, 1938, (M&R); 20 miles north of Comondu, July 23, 1938, (M&R); Comondu, July 22, 1938, (M&R); five miles south of San Miguel, July 20, 1938, (M&R); San Domingo, July 19, 1938, (M&R); 15 miles north of El Refugio, July 4, 1938, (M&R); Venancio, July 17, 1938, (M&R); 15 miles southeast of Arroyo Seco, July 29, 1938, (M&R); 20 miles northwest of La Paz, July 16, 1938, (M&R); 15 miles west of La Paz, July 5, 1938, (M&R); six miles north of Triunfo, July 15, 1938, (M&R); Triunfo, July 7, 1938, (M&R); five miles west of San Bartolo, July 13, 1938, (M&R); Las Animas, Sierra Laguna, October 12, 1941, (R&B); Santiago, July 8, 1938, (M&R); Miraflores, July 8, 1938, (M&R); El Taste, August.

(15) **Cymatodera oblita** Horn

Cymatodera oblita Horn, 1876, Trans. Am. Ent. Soc., 5:227[1]; 1894, Proc. Calif. Acad. Sci., (2)4:331[2]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:287; Moore, 1937, Occ. Pap. San Diego Soc. Nat. Hist., (2):38[3].

The occurrence of *C. oblita* on the peninsula is questionable; at least Horn's record of its capture at Cape San Lucas is probably incorrect. The specimens which he recorded are probably *C. santarosae,* a species described by Schaeffer some years later. *C. oblita* may occur in the more northern limits of the peninsula as it has been reported from San Diego County, California, which borders Lower California to the north.

Type locality: Camp Grant, Arizona[1].

Recorded distribution: southwestern United States: Nevada[2], Arizona[1,2], California[3]; Lower California: Cape San Lucas[2].

(16) **Cymatodera longula** Wolcott

Cymatodera longula Wolcott, 1921, Proc. U. S. Nat. Mus., 59:280[1]; Chapin, 1927, Proc. Biol. Soc. Washington, 40:144[2].

Cymatodera rudis Wolcott, 1921, Proc. U. S. Nat. Mus., 59:281[3]; Chapin, 1927, Proc. Biol. Soc. Washington, 40:144.

A single example of this rather variable species taken by Michelbacher and Ross is the first record of its occurrence on Lower California. The specimen does not greatly differ from Arizona individuals; it is castaneous with a faintly indicated median fascia and immediately behind this fascia is a dark area. The second antennal segment is noticeably shorter than the third.

This species is quite distinctive because of the absence of longitudinal carinae on the metasternum of the male and by the very coarsely punctured pronotum and metasternum.

Type locality: Catalina Springs, Arizona[1].

Recorded distribution: Arizona[1,2,3].

New records: Lower California: 15 miles north of El Refugio, July 4, 1938, (M&R).

(17) **Cymatodera punctata** LeConte

Cymatodera punctata LeConte, 1852, Ann. Lyc. Nat. Hist. New York, 5:212[1]; Horn, 1876, Trans. Am. Ent. Soc., 5:227[2]; 1894, Proc. Calif. Acad. Sci., (2)4:330[3]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:287.

No specimens of this species have been seen from Lower California, its occurrence in this region being based on Horn's record of its capture in two localities in the subtropical Cape Region. It seems strange that *C. punctata* has not subsequently been taken, for it undoubtedly occurs throughout the peninsula if Horn's specimens were correctly labeled and identified. *C. punctata* can be easily recognized among the other species of *Cymatodera*

known to occur in Lower California by its dense pubescence, pale color, more or less cylindrical form, and the two posterior projections from the sixth abdominal tergite of the male.

Type locality: "Colorado Desert, California"[1].

Recorded distribution: southwestern United States: California[1,2,3], Arizona[3], Texas[3]; Lower California: El Chinche[3], San Jose del Cabo[3].

(18) **Cymatodera intermedia** Barr, new species

Male: Form robust, somewhat elongate and convex; piceous, moderately shining; apices of elytra slightly paler in color; hind wings reduced to rather small pads. *Head* finely, densely punctured, vestiture consisting of very fine, short, semi-recumbent pale hairs intermixed with a few longer, erect pale hairs; antennae brunneus, slender, reaching basal third of elytra, second segment slightly shorter than third, segments three to ten nearly equal in length. *Pronotum* nearly twice as long as width at base, gradually and slightly constricted at basal third, width at base about three-fourths of that at apex; surface finely, densely punctured, somewhat more coarsely and densely along sides near base and apex, clothed with fine, short, semi-recumbent pale hairs, intermixed with a few rather long, erect pale hairs; ante-scutellar impression wanting. *Elytra* nearly two and one-half times longer than basal width, wider than pronotum; humeri rather distinct; sides widest at apical third; apices nearly conjointly rounded, slightly divergent; surface with striae consisting of coarse oblong punctures which gradually become obliterated at apical third, interspaces wider than punctures, finely, irregularly punctulate, rather moderately clothed with short, semi-recumbent pale hairs. *Legs* brunneus, finely, densely punctured, rather densely clothed with inconspicuous, short, semi-recumbent yellowish hairs and longer, erect hairs. *Metasternum* brunneus, rather densely, very finely punctured, rather abundantly clothed with very fine, suberect, pale hairs; carinae absent. *Abdomen* brunneus, very finely, rather densely punctured, rather densely clothed with inconspicuous, short, semi-recumbent yellowish hairs; fifth sternite broadly and shallowly emarginate at apex; sixth sternite rather narrow, evenly rounded with a slight emargination at middle of apex; sixth tergite evenly rounded at apex. Length: 8.1 mm.

Female: Brunneus; fifth abdominal sternite subtruncate at apex; sixth abdominal sternite evenly rounded at apex, semicircular; sixth abdominal tergite shorter than sixth sternite, truncate at apex. Length: 7.6 mm.

Holotype, male (C. A. S., No. 5625) from **Chapala Dry Lake,** June 21, 1938, allotype, female (C. A. S., No. 5626) from ten miles south of Punta Prieta, June 21, 1938. Three paratypes from Chapala Dry Lake, June 21, 1938, and one mutilated specimen, not designated as a paratype, from San Domingo, July 19, 1938. All specimens were collected by Michelbacher and Ross.

C. intermedia superficially resembles *C. mitchelli* Chapin, a species described from western Texas, but may be readily distinguished by the absence

of an ante-scutellar impression, the broader and less convex appearance, the more prominent humeri, the short inconspicuous pubescence and the very different secondary sexual characters of the males.

(19) **Cymatodera cephalica** Schaeffer

Cymatodera cephalica Schaeffer, 1908, Journ. New York Ent. Soc., 16(3):130[1]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:288.

As far as is known, no specimens of *C. cephalica* have been collected since those which were before Schaeffer at the time of his original description. The only specimen of this species examined by the writer was one small female from Santa Rosa (U. S. Nat. Mus. Coll.) which is labelled "Cephalica, Type or Paratype." This species presents a few differences which separate it from *C. purpuricollis* Horn, the only other wingless *Cymatodera* in Lower California with which it could be confused. The pronotum of *cephalica* is dark brown without a metallic luster, the body is sparsely clothed with short pale hairs, and the abdomen is dark brown, whereas the pronotum of *purpuricollis* is castaneous with a metallic tinge; also the ante-scutellar impression is more prominent, the body is conspicuously clothed with long pale hairs, and the abdomen is pale, nearly testaceous. The structure of the last two abdominal segments of the males of these two species is also quite different.

Type locality: El Taste, Lower California[1].

Recorded distribution: Lower California: El Taste[1], Santa Rosa[1].

(20) **Cymatodera purpuricollis** Horn

Cymatodera purpuricollis Horn, 1894, Proc. Calif. Acad. Sci., (2)4:381[1]; Wolcott, 1921, Proc. U. S. Nat. Mus., 59:288; 1947, Fieldiana: Zoology, 32(2):70[2].

The type of this species is in the California Academy of Sciences and is the only specimen known to the writer. Horn, in his original description, states that *C. purpuricollis* has the head and thorax metallic blue, this luster of the head and thorax has faded considerably since the time of the original description, for the type specimen now has the head and thorax castaneous with a faint metallic tinge. This and its related species, *C. cephalica,* have been taken in different mountain ranges within the Cape Region of the peninsula and are probably restricted to these isolated ranges as they are unable to fly.

Type locality: Sierra El Chinche, Lower California[1].

Recorded distribution: Lower California: Sierra El Chinche[1]; Arizona(?)[2].

Genus **Lecontella**

(21) **Lecontella gnara** Wolcott

Lecontella gnara Wolcott, 1927, Coleopt. Contr., 1(1):105[1]; Chapin, 1927, Proc. Biol. Soc. Washington, 40:143[2].

This species is a rather abundant and distinctive member of the desert fauna of Arizona, commonly encountered at lights. It has not previously

been recorded from Lower California. All specimens collected by Michelbacher and Ross were taken in the south-central portion of the peninsula. Nine examples were collected and they exhibit the same variations in size and coloration as those from Arizona. The size of the Lower California specimens ranges from 8 to slightly more than 13 mm., while the color varies from a rather light castaneous to the more typical piceous.

Type locality: Sabinas Canyon, Tucson, Arizona[1].

Recorded distribution: Arizona[1,2].

New records: Lower California: 45 miles north of San Ignacio, July 27, 1938, (M&R); 25 miles south of Santa Rosalia, July 25, 1938, (M&R); 20 miles north of Comondu, July 23, 1938, (M&R); Comondu, July 22, 1938, (M&R); San Domingo, July 19, 1938, (M&R); Venancio, July 17, 1938, (M&R); 15 miles southeast of Arroyo Seco, July 16, 1938, (M&R).

Genus **Bostrichoclerus**

(22) **Bostrichoclerus bicornis** Van Dyke

Bostrichoclerus bicornis Van Dyke, 1938, Ent. News, 49:190[1].

This unusual clerid is known only from the type and certainly could not be confused with any other species known at this time.

Type locality: Palm Canyon, Angel de la Guardia Island, Gulf of California[1].

Subfamily **PHYLLOBAENINAE**

Genus **Phyllobaenus**

The genus *Phyllobaenus* is the only representative of this subfamily occurring in Lower California.

Key to Species of Phyllobaenus of Lower California

1. Body shining, black, vestiture silvery; elytra with yellow-white markings.....2
—Body dull, blackish-brown, vestiture gray-brown; elytra with testaceous markings.....3
2. Pronotum scabrous, broader than long; elytra with subapical fascia consisting of recumbent silvery hairs.....**omoger**
—Pronotum smooth, as long as broad; elytra without fascia of hairs.....**omogeroides**
3. Elytra cribrately punctured at apex; male with last abdominal sternite consisting of lateral, curved slender processes.....**cribripennis**
—Elytra uniformly densely punctured; male with last abdominal sternite consisting of lateral, short triangular processes.....**discoideus**

(23) **Phyllobaenus omoger** (Horn)

Hydnocera omogera Horn, 1894, Proc. Calif. Acad. Sci., (2)4:383[1]; Schaeffer, 1904, Journ. New York Ent. Soc., 12(4):219[2]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):63[3].

Phyllobaenus omoger, Wolcott, 1947, Fieldiana: Zoology, 32(2):73.

Six specimens of this easily recognized species have been seen in addition to the type. The pale, basal or sub-basal elytral markings with the subapical fascia formed by silvery hairs contrasting with the shining black elytra sepa-

rates it immediately from any other Lower California species. One specimen has a small pale spot under the subapical fascia of hairs on each elytron, a variation which has previously been observed by Schaeffer.

Type locality: San Jose del Cabo, Lower California[1].

Recorded distribution: southwestern United States: Texas[2,3], Arizona[3]; Lower California: San Jose del Cabo[1,3].

New records: Lower California: 20 miles north of Comondu, July 23, 1938, (M&R); San Domingo, July 19, 1938, (M&R); six miles north of Triunfo, July 15, 1938, (M&R); Triunfo, July 13, 1938, (M&R).

(24) **Phyllobaenus omogeroides** Barr, new species

Male: Medium size, rather slender; black, somewhat shining; lower half of front of head, undersurface of head, antennae, mouthparts and legs testaceous; pronotum with basal margin testaceous, elytra with basal half pale testaceous, humeri dark. *Head* finely, sparsely punctured, sparsely clothed with short recumbent and rather long erect silvery hairs; front impressed. *Pronotum* as long as broad; sides rather feebly arcuate, basal and anterior constrictions rather feeble; surface finely, sparsely punctured, nearly smooth, sparsely clothed with rather long and short silvery hairs. *Elytra* wider than pronotum, conspicuously shorter than abdomen; sides slightly narrowing towards apex; apices separately rounded, serrate; surface sparsely, coarsely punctured, sparsely clothed with rather long silvery hairs. *Legs* sparsely clothed with long, erect silvery hairs; apices of hind femora and tibiae dark. *Abdomen* nearly smooth, very sparsely pubescent; fifth sternite shallowly emarginate at apex; sixth sternite consisting of paired, lateral, very slender curved processes which are acute at apex; last tergite somewhat narrowed and prolonged, broadly rounded at apex. *Length:* 3.25 mm.

Female: Head entirely black except for antennae and mouthparts; pronotum black; last abdominal tergite and sternite rather narrowly rounded at apex. *Length:* 3.75 mm.

Holotype, male (C. A. S., No. 5627), allotype, female (C. A. S., No. 5628) and four paratypes from **Triunfo**, July 13, 1938; one paratype from the same locality, July 7, 1938. Additional single paratypes from the following localities: six miles north of Triunfo, July 15, 1938; San Pedro, October 7, 1941; Todos Santos, July 15, 1938; and five miles west of San Bartolo, July 13, 1938. All specimens were collected by Michelbacher and Ross except for the San Pedro example which was collected by Ross and Bohart.

P. omogeroides is somewhat variable in the series of paratypes, several specimens have the head and pronotum testaceous. One of these specimens also has the elytra testaceous except for the apical third which is dark brownish.

This species resembles some specimens of *P. omoger* (Horn), but can be readily distinguished by its more slender form, nearly smooth pronotum, uniform elytral punctuation, and by the absence of a subapical fascia of hairs on the elytra.

(25) **Phyllobaenus cribripennis** (Fall)

Hydnocera cribripennis Fall, 1906, Can. Ent., 38(4):116[1]; Schaeffer, 1908, Journ. New York Ent. Soc., 16(3): 132[2].

Phyllobaenus cribripennis, Wolcott, 1947, Fieldiana: Zoology, 32(2):72.

This species is commonly found throughout southwestern United States and thirteen specimens were collected throughout the entire peninsula during the recent expeditions. It has not been previously recorded from Lower California. *P. cribripennis* may be confused with *P. discoideus* (LeConte) which also occurs on the peninsula. It can be readily separated, however, by the cribrately punctured elytral apices, it is also of a smaller size and is generally less pubescent.

Type locality: Fedor, Texas[1].

Recorded distribution: southwestern United States: Texas[1], Arizona[2].

New records: Lower California: Seven miles south of El Mayor, April 3, 1938, (Ross and Michener); Chapala Dry Lake, July 21, 1938, (M&R); 15 miles north of Punta Prieta, July 29, 1938, (M&R); 10 miles south of Punta Prieta, June 21, 1938, (M&R); Mesquital, June 23, 1938, (M&R); July 28, 1938, (M&R); 20 miles south of El Arco, September 28, 1941, (R&B); 45 miles north of San Ignacio, July 27, 1938, (M&R); Coyote Cove, Conception Bay, October 1, 1941, (R&B); 15 miles south of San Domingo, October 4, 1941, (R&B); La Paz, October 7, 1941, (R&B); 10 miles southwest of San Jose del Cabo, July 9, 1938, (M&R).

(26) **Phyllobaenus discoideus** (LeConte)

Hydnocera discoidea LeConte, 1852, Ann. Lyc. Nat. Hist. New York, 5:212[1]; Horn, 1894, Proc. Calif. Acad. Sci., (2)4:384; 1895, Proc. Calif. Acad. Sci., (2)5:228[2]; Schenkling, 1906, Deutsche Ent. Zeitschr., 1:304[3]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):63[4].

Phyllobaenus discoideus, Wolcott, 1947, Fieldiana: Zoology, 32(2):72.

Hydnocera furcata Gorham, 1886, Biol. Centr.-Amer., Coleopt., Suppl., 3(2):342[5]; Horn, 1894, Proc. Calif. Acad. Sci., (2)4:384.

Hydnocera fuscata, Schenkling, 1906, Deutsche Ent. Zeitschr., 1:304.

Twenty specimens have been assigned to this poorly known and supposedly variable species with some doubt. The individuals from the extreme northern part of the peninsula rather closely approximate *P. quadrimaculatus* (Van Dyke) which was described from San Diego County, California. If these specimens are correctly identified, *P. discoideus* and *P. quadrimaculatus* may be one and the same species. The remainder of the specimens are rather constant in coloration, having a broad, basal testaceous band and rather large, post-median testaceous spots. They range in size from 3 mm. to 5.75 mm.

Type locality: "Colorado Desert, California"[1].

Recorded distribution: southwestern United States: Texas[2], New Mexico[4], Utah[4], Arizona[2,3,4], California[1,4]; Lower California: Calmalli Mines[2], Sierra San Lazaro[2]; Mexico[3,4]: Northern Sonora[5].

New records: Lower California: 20 miles south of Santo Tomas, August 3, 1938, (M&R); San Quentin, June 7, 1925, (H. H. Keifer); August 2, 1938, (M&R); 19 miles east of Rosario, June 17, 1938, (M&R); Chapalla Dry Lake, June 21, 1938, (M&R); Mesquital, June 23, 1938, (M&R); 15 miles north of San Ignacio, September 29, 1941, (R&B); 20 miles north of Comondu, October 3, 1941, (R&B), 15 miles south of San Domingo, October 4, 1941, (R&B); Pescadero, October 8, 1941, (R&B); Big Canyon, Sierra Laguna, October 13, 1941, (R&B); Miraflores, July 8, 1938, (M&R); five miles south of Miraflores, July 10, 1938, (M&R).

SUBFAMILY **CLERINAE**

KEY TO GENERA OF CLERINAE OF LOWER CALIFORNIA

1. Maxillary and labial palpi with terminal segments triangular, widened apically.....2
—Labial palpi with terminal segments triangular; terminal segments of maxillary palpi cylindrical, broader at base than at apex.....**Enoclerus**
2. Last three antennal segments forming a distinct club.....3
—Last five antennal segments gradually forming a loose club.....**Xenoclerus**
3. Antennal club loosely formed; terminal segments of maxillary palpi broadly triangular **Aulicus**
—Antennal club compact; terminal segments of maxillary palpi slightly broader at apex than at base.....**Trichodes**

Genus **Enoclerus**

(27) **Enoclerus quadrisignatus** (Say)

Clerus quadrisignatus Say, 1835, Boston Journ. Nat. Hist., 1(2):162[1]; Klug, 1842, Clerii, p. 293; LeConte, 1849, Ann. Lyc. Nat. Hist. New York, 5:19; Horn, 1894, Proc. Calif. Acad. Sci., (2)4:331[2]; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):362.

Enoclerus quadrisignatus, Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):57[3].

Clerus rufescens LeConte, 1852, Ann. Lyc. Nat. Hist. New York, 5:212[4].

Clerus affiliatus LeConte, 1859, Proc. Acad. Nat. Sci. Phila., (1858)10:72[5].

Clerus latecinctus LeConte, 1859, Proc. Acad. Nat. Sci. Phila., (1858)10:72[6]; 1861, Proc. Acad. Nat. Sci. Phila., (1862)13:335[7].

Enoclerus latecinctus, Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):57[8].

Clerus laticinctus, Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):362[9].

This is one of the more common species of Cleridae found in the southwestern United States and it presents a number of color variations throughout its range, several of these having been described and named by LeConte. There seems to be some geographical correlation with these color variations, but at the present time this variation appears to be rather continuous from area to area. For this reason the name *quadrisignatus* is being applied to all forms. Most of the Lower California specimens which have been examined tend towards a darker coloration. With one exception, all of the specimens were collected in the southern half of the peninsula. This is the only representative of this genus occurring in Lower California.

Type locality: North Carolina[1].

Recorded distribution: United States: New Jersey[3] to Illinois[3], Georgia[3] to Texas[3,5,8] to Kansas[3], Colorado[3], Arizona[2,3], California[3,4,8]; Mexico[3]: Sonora[6]; Lower California[3,7]: San Jose del Cabo[2,8,9].

New records: Lower California: El Marmol, September 24, 1941, (R&B); 25 miles south of Santa Rosalia, July 25, 1938, (M&R); Comondu, July 22, 1938, (M&R); San Domingo, July 19, 1938, (M&R); San Evaristo, June 10, 1921, (J. C. Chamberlin); Venancio, July 17, 1938, (M&R); Santa Rosa, August–September 1901, (Beyer).

Several specimens from San Jose del Cabo have also been examined.

Genus **Trichodes**

KEY TO SPECIES OF TRICHODES OF LOWER CALIFORNIA

1. Elytra roughened, not distinctly punctured.....2
—Elytra with large coarse punctures.....**peninsularis**
2. Elytra blue, green, or black with yellow to reddish markings; median fascia narrow to broad, oblique.....**ornatus**
—Elytra black with pale yellow markings, median fascia narrow, transverse.....**nexus**

(28) **Trichodes peninsularis** Horn

Trichodes peninsularis Horn, 1894, Proc. Calif. Acad. Sci., (2)4:383[1]; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):369[2]; 1944, Pan-Pac. Ent., 20(2):55; 1947, Fieldiana: Zoology, 32(2):82[3].

The only specimen, other than the type of this beautiful species, seen by the writer is a single example taken at Purisima, which does not differ from the type. This new record extends the range of this species approximately eighty miles northward on the peninsula. *T. peninsularis* is most closely related to *T. horni* Wolcott and Chapin, a variable species found in Arizona, and is separated on the basis of the color of the antennae, legs, and elytra. The Arizona record is probably based on misidentified or mislabeled material. *T. peninsularis* is easily distinguished from any other recorded Lower California *Trichodes* because of its very coarsely punctured elytra and slender form.

Type locality: El Chinche, Lower California[1].

Recorded distribution: Lower California: El Chinche[1,2]; Arizona[3].

New records: Lower California: Purisima, October 1923, (W. M. Mann).

(29) **Trichodes nexus** Wolcott

Trichodes nexus Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):372[1]; 1944, Pan-Pac. Ent., 20(2):55.

This interesting species seems to be most closely allied to some forms of the variable *T. ornatus* Say, from which it is most easily separated by having the median fascia of the elytra narrow, transverse, and parallel-sided. *T. nexus* is also slightly more robust with the lateral margins of the elytra more

parallel. From the material at hand, this species is confined to the southern half of the peninsula and has thus far been taken only in the month of October, whereas *ornatus* has been found only in the far northern part of the peninsula, having been collected in the spring and early summer.

Type locality: San Jose del Cabo, Lower California[1].

Recorded distribution: Lower California: San Jose del Cabo[1].

New records: Lower California: Coyote Cove, Conception Bay, October 1, 1941, (R&B); 10 miles south of Coyote Cove, Conception Bay, October 1, 1941, (R&B).

In addition to two examples from these localities, the writer has also examined two specimens from San Jose del Cabo, the type locality, which are in the U. S. National Museum Collection.

(30) **Trichodes ornatus** Say

Trichodes ornatus Say, 1823, Journ. Acad. Nat. Sci., Phila., 3:189[1]; Klug, 1842, Clerii, p. 340; Spinola, 1844, Monog. Clerites, 1:327; LeConte, 1849, Ann. Lyc. Nat. Hist. New York, 5:18[2]; Horn, 1876, Trans. Am. Ent. Soc., 5:231; 1891, Ent. News, 2(1):6; Cockerell, 1893, Trans. Am. Ent. Soc., 20:329; Schenkling, 1906, Deutsche Ent. Zeitschr., 1:286; Wolcott, 1909, Bull. Wisconsin Nat. Hist. Soc. 7(3&4):99; 1910, Pub. Field Mus. Nat. Hist., 7(10):372[3]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist. Univ. Iowa, 6(3):59[4]; Linsley and MacSwain, 1943, Ann. Ent. Soc. Am., 36(4):589; Wolcott, 1944, Pan-Pac. Ent., 20(2):58[5].

Trichodes douglasianus White, 1849, Nomen. Coleopt. Ins. Brit. Mus., Cleridae, 4:60[6]; Cockerell, 1893, Trans. Am. Ent. Soc., 20:329; Schenkling, 1906, Deutsche Ent. Zeitschr., 1:286.

Trichodes hartwegianus White, 1849, Nomen. Coleopt. Ins. Brit. Mus., Cleridae, 4:60[7]; Cockerell, 1893, Trans. Am. Ent. Soc., 20:329; Schenkling, 1906, Deutsche Ent. Zeitschr., 1:286.

Trichodes tenellus LeConte, 1859, Proc. Acad. Nat. Sci. Phila., (1858)10:72[8].

Trichodes ornatus var. *tenellus*, Horn, 1891, Ent. News, 2(1):7[9]; Schenkling, 1906, Deutsche Ent. Zeitschr., 1:286; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):373[10]; Wickham and Wolcott, 1912, Bull. Lab. Nat. Hist., Univ. Iowa, 6(3):59[11]; Wolcott, 1944, Pan-Pac. Ent., 20(2):55.

Trichodes ornatus tenellus, Linsley and MacSwain, 1943, Ann. Ent. Soc. Am., 36(4):592[12].

Trichodes ornatus var. *obsoletus* Wolcott, 1944, Pan-Pac. Ent., 20(2):59[13].

T. ornatus is one of the more common and most variable clerids occurring in western North America. The elytra are blue, violet, green, or black. The elytral maculations are often reddish on specimens from the Rocky Mountain region and the desert area of the southwest. Specimens from Utah and southern Oregon have been seen with the elytral maculations reduced to a single median fascia. Its size ranges from 6½ to over 14 mm. in length. Four specimens have been seen from Lower California; they are all rather small and have the elytra black with yellowish markings. No previous records of its occurrence on the peninsula have been seen.

A number of subspecies may be represented in the range of this species for there are indications that several of the forms are geographically distinct.

Before any definite conclusions can be drawn, however, additional specimens must be examined. Information on the biologies of these various forms is also needed.

Type locality: "Arkansa."[1]

Recorded distribution: western North America: Alberta[3,5], British Columbia[3,4], "Missouri Territory"[2], South Dakota[3], Montana[3,4], Idaho[3], Wyoming[3], Colorado[3,4,5,10,11], Nebraska[3], Utah[3,4,11], Nevada[3,4,11], New Mexico[2,3,4,10,11], Arizona[3,4,13], Washington[3,4], Oregon[2,3,4,5,11], California[3,4,6,7,8,9,10,11], Mexico[12].

New records: Lower California: Ensenada, May 6, 1938, (W. E. Simonds); San Vincente, May 11, 1938, (W. E. Simonds); Chapala Dry Lake, June 21, 1938, (M&R).

Genus **Xenoclerus**

(31) **Xenoclerus edwardsii** (Horn)

Trogodendron edwardsii Horn, 1880, Trans. Am. Ent. Soc., 8:149[1]; 1894, Proc. Calif. Acad. Sci., (2)4:331[2]; Fall, 1901, Occ. Pap. Calif. Acad. Sci., 8:129[3].

Xenoclerus edwardsii, Schenkling, 1902, Bull. Mus. Nat. Hist. Paris, 8:327; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):366[4].

No specimens of this striking species have been seen from Lower California. Horn was the first to record it from this region and Wolcott's record is probably based on this. *X. edwardsii* should also be found in the northern half of the peninsula as it occurs uncommonly in Arizona and southern California. It is easily recognized by its large size and distinctive reddish-orange and black elytra.

Type locality: "Southern Arizona"[1].

Recorded distribution: southwestern United States: Arizona[1,2,4], California[3,4]; Lower California: Sierra El Chinche[2,4].

Genus **Aulicus**

KEY TO SPECIES OF AULICUS OF LOWER CALIFORNIA

1. Elytra blue with reddish or yellow humeral and post-median markings.....2
—Elytra with upper surface uniformly blue.....**linsleyi**
2. Elytra with post-median fascia attaining suture, sutural vitta broadly expanded at base.....**fissipes**
—Elytral with post-median fascia interrupted before suture, sutural vitta broad and parallel at base.....**humeralis**

Aulicus nero Spinola

Aulicus nero Spinola, 1844, Monog. Clerites, 1:330; Horn, 1894, Proc. Calif. Acad. Sci., (2)4:331; Schenkling, 1902, Bull. Mus. Paris, 7:325; Linsley, 1936, Univ. Calif. Pub. Ent., 6(9):254.

This species has been recorded from Lower California by Horn and others. However, its occurrence in this region was based on incorrectly determined material. What Horn called *A. nero* was probably either *A. fissipes* or *A. humeralis* Linsley. As pointed out by Linsley, *A. nero* has caused considerable

confusion in the literature as a result of Spinola's describing *nero* and figuring a different species under this name in the same publication. *A. nero* has also been erroneously recorded from several localities in the southwestern United States, but so far as is known, occurs only in Mexico.

(32) **Aulicus fissipes** Schaeffer

Aulicus fissipes Schaeffer, 1921, Proc. U. S. Nat. Mus., 59:155[1]; Linsley, 1936, Univ. Calif. Pub. Ent., 6(9):253.

This species exhibits a remarkable constancy in color and color pattern in the seventeen specimens examined from Lower California. The writer has also had the opportunity of studying Schaeffer's allotype from San Jose del Cabo, which differs slightly from the Ross-Bohart material in that the reddish elytral markings have apparently faded to a yellow color. *A. humeralis* is the only other species on the peninsula which could be confused with *A. fissipes*. However, the post-median fascia on the elytra of *fissipes* is not interrupted before the suture as in *humeralis*. All specimens of *fissipes* have a definite greenish tinge to the elytra, while the elytra of *humeralis* are distinctly blue or violaceous.

Type locality: Tucson, Arizona[1].

Recorded distribution: Arizona[1]; Lower California: San Jose del Cabo[1].

New records: Lower California: Todos Santos, October 10, 1941, (R&B); Canipole, October 2, 1941, (R&B); San Pedro, October 7, 1941, (R&B); Pescadero, October 8, 1941, (R&B); 20 miles north of Comondu, October 3, 1941, (R&B); San Venancio, October 8, 1941, (R&B).

(33) **Aulicus humeralis** Linsley

Aulicus humeralis Linsley, 1936, Univ. Calif. Pub. Ent., 6(9):152[1].

In contrast to the previous species, *A. humeralis* does show some variation in color and size in the material examined. The extent of the elytral markings on several specimens is markedly reduced, this is especially true of the post-median fascia which takes the form of rather small to large rounded spots. Further variation is observed in the color of these elytral markings, which are yellow in the majority of specimens, but decidedly reddish in several examples. The elytra of one specimen are of a distinct violaceous color instead of the usual metallic blue. Twelve specimens range from 5.25 mm. to 9.5 mm. in length. This and the other species of Lower California *Aulicus* appear to be fall forms in contrast to the members of this genus occurring in California which are taken principally in the spring.

Type locality: Sierra El Chinche, Lower California[1].

Recorded distribution: Lower California: Sierra El Chinche[1]; Gulf of California: Santa Inez Island[1].

New records: Lower California: 15 miles south of San Domingo, October

4, 1941, (R&B) ; 10 miles northwest of La Paz, October 6, 1941, (R&B) ; San Pedro, October 7, 1941, (R&B) ; five miles west of San Bartolo, July 13, 1938, (M&R) ; Pescadero, October 8, 1941, (R&B) ; eight miles northeast of Cape San Lucas, July 10, 1938, (M&R).

(34) **Aulicus linsleyi** Barr, new species

Male: Medium size, rather feebly shining. *Head* black, densely, rather coarsely punctured with a small, median, nearly smooth area on vertex, moderately clothed with long, erect white hairs; antennae reddish; palpi piceous. *Thorax* with pronotum broader than long, black, shining, coarsely sparsely punctured on disk, more densely towards sides. moderately clothed with long, erect white hairs, lateral margins moderately arcuate, anterior constriction distinct at sides, nearly smooth on disk, posterior constriction distinct; undersurface black, finely, densely punctured, moderately clothed with long, semi-recumbent white hairs. *Elytra* metallic blue with slight violaceous tinge; humeri slightly reddish with small, round black spot; epipleura reddish; surface coarsely, densely punctured, reticulate, moderately clothed with short, semi-erect whitish hairs, sparsely intermixed with longer, erect whitish hairs. *Legs* black; tarsi piceous; inner claw of anterior tarsus cleft; claws of middle and hind tarsi simple. *Abdomen* reddish, sparsely punctured and pubescent; fifth sternite broadly and deeply emarginate at apex; sixth sternite shallowly emarginate at apex; sixth tergite narrowly rounded and broadly notched at apex. *Length:* 5.75 mm.

Holotype, male (C. A. S., No. 5708) from **20 miles north of Comondu,** October 3, 1941; one male paratype from Canipole, October 2, 1941, and a somewhat damaged female paratype from San Pedro, October 7, 1941. All specimens were collected by Ross and Bohart. This species is named after Dr. E. G. Linsley as a slight tribute to the generous and valuable assistance he has offered the writer during this and other studies.

The female specimen differs from the male in that the antennae are pale piceous in color; all tarsal claws are simple and the abdomen is black with the lateral and posterior margins of the sternites very faintly reddish, the fifth sternite is not as deeply emarginate at the apex as that of the male, the sixth sternite is broadly rounded at the apex and the sixth tergite is narrowly rounded at the apex.

A. linsleyi appears to be most closely allied to *A. humeralis* and may be separated by the absence of basal and post-median reddish or yellow spots or fasciae. This species is so strikingly distinct from any *Aulicus* known at present in our fauna, that it seems desirable to give it a name at this time.

This is probably the form which was discussed by Schenkling in a letter to Wolcott* and was referred to as *Aulicus nero* Spinola.

* Wolcott, A. B., 1910, Pub. Field Mus. Nat. Hist., 7(10):365.

SUBFAMILY **ENOPLIINAE**

KEY TO GENERA OF ENOPLIINAE OF LOWER CALIFORNIA

1. Sides of pronotum evenly rounded; elytra without coarse, deep, sparsely placed punctures 2
—Sides of pronotum angulate and constricted posteriorly; elytra with basal half very coarsely and sparsely punctured, punctures deep and round ..... **Corinthiscus**
2. Elongate; eyes coarsely granulate ..... **Orthopleura**
—Robust; eyes finely granulate ..... **Pelonides**

Genus **Corinthiscus**

(35) **Corinthiscus peninsularis** (Schaeffer)

Cregya peninsularis Schaeffer, 1917, Journ. New York Ent. Soc., 25(2):132[1].
Corinthiscus peninsularis, Leng, 1920, Cat. Coleopt., p. 151.
Cregya vetusta, Horn, 1895, Proc. Calif. Acad. Sci., (2)5:228[2].
Corinthiscus sinaloae Chapin, 1920, Proc. Ent. Soc. Washington, 22(3):53[3], (new synonymy).

The only specimens of this species seen were six examples from Santa Rosa which included two of Schaeffer's paratypes. Presumably all of these specimens were collected by Beyer and are quite uniform in size and coloration. Horn records from San Jose del Cabo, *Cregya vetusta* (Spinola) which is a synonym of the North American species, *Corinthiscus leucophaeum* (Klug). This undoubtedly is the species that Schaeffer described some years later as *Cregya peninsularis* which is now in the genus *Corinthiscus*. This is the only member of this genus occurring in Lower California. It is separated from *C. leucophaeum* by the narrow, strongly undulated black fasciae which border the broad, brownish subapical fascia and by the yellowish-white apex of the elytra.

The new synonymy is proposed after studying one of Chapin's paratypes of *C. sinaloae,* no specific differences could be found between this and *C. peninsularis* (Schaeffer). Thanks are here extended to Dr. Chapin for allowing the writer to study his material and establish this synonymy.

Type locality: Santa Rosa, Lower California[1].

Recorded distribution: Lower California: Santa Rosa[1], San Jose del Cabo[2]; Mexico[3].

Genus **Orthopleura**

KEY TO SPECIES OF ORTHOPLEURA OF LOWER CALIFORNIA

1. Pronotum reddish; elytra black, with or without a pale, narrow median fascia . **damicornis**
—Pronotum brown to piceous, at most the anterior margin reddish; elytra brown to piceous with a faintly indicated, pale, narrow median fascia ..... **texana**

(36) **Orthopleura damicornis** (Fabricius)

Tillus damicornis Fabricius, 1798, Ent. Syst., Supp. 1, p. 117[1]; 1801, Syst. Eleuth., 1:282.
Enoplium damicorne, Dejean, 1837, Cat. Coleopt., 3 ed., p. 128; LeConte, 1849, Ann. Lyc. Nat. Hist. New York, 5:33.
Orthopleura damicornis, Spinola, 1844, Monog. Clerites, 2:80; Chevrolat, 1874, Rev. Mag. Zool., p. 328; Horn, 1875, Trans. Am. Ent. Soc., 5:149; Gorham, 1883, Biol. Centr.-

Amer., Coleopt., 3(2):185[2]; 1886, Biol. Centr.-Amer., Coleopt., 3(2):345[3]; Horn, 1894, Proc. Calif. Acad. Sci., (2)4:331[4]; Wickham, 1895, Can. Ent., 27(8):252[5]; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):395[6]; Chapin, 1920, Proc. Ent. Soc. Washington, 22(3):53; Wolcott, 1943, Pan-Pac. Ent., 19(4):137.

Enoplium thoracicum Say, 1823, Journ. Acad. Nat. Sci. Phila., 3:188.

Pelonium pennsylvanicum Chevrolat, 1874, Rev. Mag. Zool., p. 325[7]; Horn, 1875, Trans. Am. Ent. Soc., 5:149; Gorham, 1886, Biol. Centr.-Amer., Coleopt., 3(2):345.

No specimens of *O. damicornis* have been seen from Lower California, its recorded occurrence in this region being based on Horn's report of its capture at San Jose del Cabo. Since there has been considerable confusion as to the identity of certain species in this genus, this may be an erroneous record.

Type locality: "America Boreali"[1].

Recorded distribution: Canada: Quebec[5], Ontario[5]; United States: Texas[4,6] to Florida[6] to Pennsylvania[5,6,7] to Michigan[6] to Missouri[6]; Lower California: San Jose del Cabo[4]; Mexico[2,3,6]; West Indies: Cuba[6].

(37) **Orthopleura texana** Bland

Orthopleura texana Bland, 1863, Proc. Ent. Soc. Phila., 1:356[1]; Wolcott, 1910, Pub. Field Mus. Nat. Hist., 7(10):394[2]; Chapin, 1920, Proc. Ent. Soc. Washington, 22(3):53; Wolcott, 1943, Pan-Pac. Ent., 19(4):136.

Orthopleura damicornis, var. *texana*, Schenkling, 1906, Deutsche Ent. Zeitschr., 1:317[3].

This is the first record of the occurrence of this species in Lower California. Sixteen specimens have been examined and they show a rather wide range of variation, which seems to be rather typical of this genus. The color varies from a light brown to piceous and the median fascia may or may not be present. The color of the pubescence in some specimens is dark and in others it is pale.

O. texana is easily separated from *O. damicornis*, the only other species of this genus recorded from Lower California, by the nearly uniformly colored pronotum and elytra, *damicornis* has a reddish pronotum and black elytra.

Type locality: "Western Texas"[1].

Recorded distribution: Washington, D.C.[1]; Texas[1,2,3].

New records: Lower California: 25 miles south of Santa Rosalia, July 25, 1938, (M&R); 20 miles north of Comondu, July 23, 1938, (M&R); five miles south of San Miguel, July 20, 1938, (M&R); San Domingo, July 19, 1938, (M&R); Miraflores, July 29, 1919, (J. R. Slevin).

Genus **Pelonides**

(38) **Pelonides scabripennis** (LeConte)

Enoplium scabripenne LeConte, 1866, Smiths. Misc. Coll., (167):98[1].

Pelonides scabripennis, Leng, 1920, Cat. Coleopt., p. 151.

Small, rather robust; reddish orange; antennae black; elytra black with a rather narrow reddish-orange stripe along lateral margins of basal half, apices reddish-orange in female; body rather sparsely clothed with short,

erect black hairs. *Head* rather coarsely, densely punctured; slightly impressed between eyes; antennal club of male longer, with lateral processes more elongate than that of female. *Prothorax* rather finely and densely punctured. *Elytra* rather coarsely scabrous; humeri nearly smooth; apices separately rounded. *Legs* black with basal half of femora orange, conspicuously clothed with rather long pale hairs. *Length:* 5 mm. to 5.5 mm.

Type locality: Cape San Lucas, Lower California[1].

Recorded distribution: Lower California: Cape San Lucas[1].

New records: Lower California: 20 miles south of El Arco, September 28, 1941, (R&B); 15 miles south of San Domingo, October 4, 1941, (R&B).

This species was described from a single female and apparently has been known only from this unique type. A male and a female were collected by Ross and Bohart and it is interesting to note that the reddish-orange spot at the apex of each elytron is lacking in the male. The male further differs from the female in that the antennal club is longer and the lateral process of each segment is more elongate.

SUBFAMILY **KORYNETINAE**

KEY TO GENERA OF KORYNETINAE OF LOWER CALIFORNIA

1. Last segment of labial palpi usually distinctly triangular, broader at apex than at base; antennal club loose 2
—Last segment of labial palpi cylindrical or broader at base than at apex; antennal club compact ..... **Necrobia**
2. Robust; elytra without median fascia; first tarsal segment equal in length to second ..... **Loedelia**
—Slender; elytra with median fascia; first tarsal segment small, hidden by second ..... **Tarsostenus**

Genus **Loedelia**

KEY TO SPECIES OF LOEDEIA OF LOWER CALIFORNIA

1. Last segment of maxillary palpus triangular; tarsal claws cleft 2
—Last segment of maxillary palpus elongate; tarsal claws lobed at base ..... **janthina**
2. Elytra metallic blue, coarsely and densely punctured, punctures distinct; legs and abdomen black ..... **maculicollis**
—Elytra blue-black, coarsely and densely punctured, punctures shallow, rather indistinct; legs and abdomen rufous ..... **peninsularis**

(39) **Loedelia maculicollis** (LeConte)

Lebasiella maculicollis LeConte, 1874, Trans. Am. Ent. Soc., 5:63[1].

Corynetes maculicollis, Leng, 1920, Cat. Coleopt., p. 152.

Loedelia maculicollis, Wolcott, 1947, Fieldiana: Zoology, 32(2):88.

Pelonium lineatocolle Chevrolat, 1874, Rev. Mag. Zool., p. 326[2]; Horn, 1875, Trans. Am. Ent. Soc., 5:149.

Pelonium filiolus Chevrolat, 1874, Rev. Mag. Zool., p. 326[3]; Horn, 1875, Trans. Am. Ent. Soc., 5:149.

Corynetes maculicollis, var. *nigricollis* Wolcott, 1927, Coleopt. Contr., 1(1):110[4].

This is the first record of the occurrence of this well-known California species in Lower California. Six specimens were collected by Michelbacher

and Ross in the northern part of the peninsula and these are quite similar in coloration to California specimens. The black discal spot on the pronotum is rather variable in size in this species. However, no intergradation towards the variety *nigricollis* Wolcott, which was described from San Diego County, California, has been observed in the Lower California specimens.

Type locality: Mariposa, California[1].

Recorded distribution: California[1,2,3,4].

New records: Lower California: Five miles south of Onyx, June 19, 1938, (M&R); Chapala Dry Lake, June 21, 1938, (M&R).

(40) **Loedelia peninsularis** Barr, new species

Female: Small, rather robust; feebly shining. *Head* black, lower half of front and undersurface rufous; surface finely, rather sparsely punctured, sparsely clothed with short, erect, black hairs, slightly roughened just above rufous area at middle, lower half of front with a few scattered punctures; antennae black, four basal segments rufous. *Pronotum* black, anterio-lateral angles rufous; surface finely, sparsely punctured, roughened near lateral margins, rather sparsely clothed with short, erect black hairs. *Elytra* blue-black, wider than pronotum; sides widest behind middle; apices separately and rather narrowly rounded; surface coarsely, densely punctured, punctures shallow, rather indistinct, becoming more or less roughened at apex, rather sparsely clothed with short, erect black hairs. *Legs* rufous, apices of femora and bases of tibiae dark; tarsi black, tarsal claws cleft at base. *Abdomen* rufous, segments one to four with a transverse black cloud; surface finely, sparsely punctured and pubescent. Length: 5 mm.

Holotype, female (C. A. S., No. 5709) from **Mesquital,** June 23, 1938, collected by Michelbacher and Ross.

This species most closely resembles *L. maculicollis* var. *nigricollis* Wolcott from which it may be separated by having the abdomen and legs rufous and the elytra blue-black with indistinct, coarse shallow punctures. In addition to these differences, *L. peninsularis* may be further separated from typical *maculicollis* in that it lacks reddish markings on the surface of the pronotum.

(41) **Loedelia janthina** (LeConte)

Lebasiella janthina LeConte, 1866, Smiths. Misc. Coll., (167):99[1]; Horn, 1894, Proc. Calif. Acad. Sci., (2)4:331[2].

Pelonides janthina, Leng, 1920, Cat. Coleopt., p. 151.

Loedelia janthina, Wolcott, 1947, Fieldiana: Zoology, 32(2):88.

Short, rather robust; metallic blue; feebly shining. *Head* finely, sparsely punctured, very slightly roughened, sparsely clothed with short black hairs; antennae black, first four segments slightly reddish, club longer than preceding segments in male, club slightly shorter than preceding segments in female. *Prothorax* finely, sparsely punctured, more densely toward the lateral margins, rather densely clothed with short, erect black hairs. *Elytra* coarsely,

densely punctured, rather sparsely clothed with short, erect black hairs; humeri nearly smooth; apices nearly conjointly rounded. *Legs* blue; tarsi somewhat piceous, tarsal claws lobed at base. *Length:* 3.75 mm. to 5 mm.

Type locality: Cape San Lucas, Lower California[1].

Recorded distribution: Lower California: Cape San Lucas[1,2].

New records: Lower California: 15 miles north of San Ignacio, September 29, 1941, (R&B); San Jose del Cabo. Gulf of California: Marquer Bay, Carmen Island, May 23, 1921, (Van Duzee); San Jose Island, May 23, 1921, (Van Duzee).

L. janthina bears a superficial resemblance to *Aulicus linsleyi* Barr and *Necrobia rufipes* (Fab.), but can readily be separated by the antennal structure, elytral punctuation and color of the legs and undersurface. From *L. maculicollis* and *L. peninsularis* it may be most easily distinguished by the characters given in the key. Four specimens have been studied and they are all quite uniform in structure, size and color.

Apparently, *L. janthina* has been known only from female specimens, for no paper has been seen which makes reference to the antennal structure of the male. The last three segments of the antenna of the male are strongly serrate and elongate, together being at least as long as those segments preceding. The last three segments of the antenna of the female, together are slightly shorter than the preceding segments. Because of the antennal structure and several other critical characters, the writer feels that *L. janthina* is not congeneric with *L. maculicollis* and *L. peninsularis*. In fact it shows some affinities with the subfamily Enopliinae as herein defined. Before the correct generic assignment of this species can be made, however, a reevaluation of the genera of the Enopliinae and Korynetinae will be necessary. Since a study of such nature is not possible within the scope of this paper the writer is, for the present, retaining *janthina* under the genus *Loedelia*.

Genus **Necrobia**

(42) **Necrobia rufipes** (De Geer)

Clerus rufipes De Geer, 1775, Mem. l'Hist. Ins., 1:165[1].

Dermestes rufipes, Fabricius, 1781, Spec. Ins., 1:65; 1887, Mant. Ins., 1:35; Rossi, 1792, Fauna Etr., p. 33.

Necrobia rufipes, Olivier, 1795, Ent., Coleopt., 4(76):5; Latreille, 1804, Hist. Nat., 9:156; Stephens, 1830, Illust. Brit. Ent., Mand., 3:327; 1839, Man. Brit. Coleopt., p. 198; Spinola, 1844, Monog. Clerites, 2:101; Gorham, 1893, Biol. Centr.-Amer., Coleopt., 3(2):193; Wickham, 1895, Can. Ent., 27:252; Chapin, 1924, Philippine Journ. Sci., 25(2):281; Blaisdell, 1925, Proc. Calif. Acad. Sci., (4)14:324[2]; Corporaal, 1937, Occ. Pap. Bishop Mus., 13(3):17; 1942, Beitraege Fauna Perus, 2(13):147.

Corynetes rufipes, Fabricius, 1801, Syst. Eleuth., 1:286; Schönherr, 1808, Syn. Ins., 2:51; Dejean, 1837, Cat. Coleopt., 3 ed., p. 127; Klug, 1842, Clerii, p. 350; LeConte, 1849, Ann. Lyc. Nat. Hist. New York, 5:34; Kiesenwetter, 1863, Nat. Ins. Deutschl., Coleopt., 4:693; Horn, 1876, Trans. Am. Ent. Soc., 5:199[3]; 1894, Proc. Calif. Acad. Sci., (2)4:331[4].

Tenebrio dermestoides Piller and Mitterpacker, 1783, Iter Poseg. Sclav., p. 68.

Corynetes glabra Champollion, 1814, Mag. Encycl., Millin, 3:41; Gorham, 1878, Trans. Ent. Soc. London, p. 159; Schenkling, 1902, Bull. Mus. Paris, 8:332; Alluaud, 1908, Bull. Ent. Soc., Egypt, 1:3.

Corynetes glaber, Lacordaire, 1857, Gen. Coleopt., 4:491.

Necrobia amethystina Stephens, 1832, Illust. Brit. Ent., Mand., 5:417; 1839, Man. Brit. Coleopt., p. 198; Klug, 1842, Clerii, p. 394.

Necrobia mumarium Hope, 1834, Pettigrew's Hist. Egypt. Mummies, p. 54; Lacordaire, 1857, Gen. Coleopt., 4:491; Schenkling, 1902, Bull. Mus. Paris, 8:332; Alluaud, 1908, Bull. Ent. Soc. Egypt, 1:4.

Necrobia pilifera Reitter, 1894, Nat. Ver. Brünn Verh., (1893)32:85; 1894, Best.-Tab., p. 52; Abielle, 1895, Bull. Ent. Soc. France, p. 208; Stolz, 1926, Koleopt. Not. I, 12(1):28.

Necrobia foveicollis Schenkling, 1900, Naturhist. Mus. Hambur, Mitteil., 17:20.

Necrobia pilifera var. *aeneipennis* Csiki, 1900, Rovart. Lapok, 7:124; Gorham, 1883, Bio. Centr.-Amer., Coleopt., 3(2):193; Schenkling, 1906, Deutsche Ent. Zeitschr., 1:319.

Necrobia pilifera var. *cupreonitens* Lauffer, 1905, Real Soc. Espan. Hist. Nat., 5:406.

This cosmopolitan species is probably one of the most widespread and common species of Cleridae known. It is not particularly abundant in Lower California. Neither of the locality records for this region is from the mainland, but from Guadalupe Island, which is located off the western coast of the peninsula. *N. rufipes* should be found along the coastal areas of Lower California near the villages and towns. It is a very distinct species, easily recognized by its metallic blue body and rufous legs. The body often takes on a decided metallic green luster.

Type locality: "Suriname"[1].

Recorded distribution: Cosmopolitan; Lower California[4]; Guadalupe Island[2,3].

New records: Lower California: San Felipe, June 1939, (Ross); Cedros Island, June 3, 1925, (H. H. Keifer).

Genus **Tarsostenus**

(43) **Tarsostenus univittatus** (Rossi)

Clerus univittatus Rossi, 1792, Faun. Etr., p. 41[1]; Lacordaire, 1857, Gen. Coleopt., 4:452.

Notoxus univittatus, Dejean, 1837, Cat. Coleopt., p. 126.

Opilus univittatus, Stephens, 1839, Man. Brit. Coleopt., p. 197; Klug, 1842, Clerii, p. 321.

Tarsostenus univittatus, Spinola, 1844, Monog. Clerites, 1:288; Jacq. du Val, 1861, Gen. Coleopt. d'Eur., 3:198; Chenu, 1870, Encycl. d'Hist. Nat., Coleopt., 2:254; Gorham, 1876, Cist. Ent., 2:64; LeConte, 1873, Proc. Acad. Nat. Sci. Phila., 25:334; Lewis, 1892, Ann. Mag. Nat. Hist. (6)10:188; Houlbert and Betis, 1905, Trav. Sci. Univ. Rennes, 4:131; Chapin, 1924, Philippine Journ. Sci., 25(2):278; Corporaal, 1937, Occ. Pap. Bishop Mus., 13(3):16; 1942, Beitraege Fauna Perus, 2(13):146.

Opilus fasciatus Curtis, 1832, Brit. Ent., 6:pl. 270; Stephens, 1830, Illust. Brit. Ent., Mand., 3:324; 1829, Syst. Cat. Brit. Ins., 1:138.

Tillus succinctus Chevrolat, 1842, Rev. Zool. Soc. Cuv., p. 277; Lacordaire, 1857, Gen. Coleopt., 4:452.

Dupontiella fasciatella Spinola, 1844, Monog. Clerites, 2:172; Chevrolat, 1874, Rev. Mag. Zool., p. 283; Gorham, 1876, Cist. Ent., 2:64.

Opilus albofasciatus Melsheimer, 1846, Proc. Acad. Nat. Sci. Phila., (1844–1845)2:306; Lacordaire, 1857, Gen. Coleopt., 4:452.

Tarsostenus albofasciatus, LeConte, 1849, Ann. Lyc. Nat. Hist. New York, 5:17.
Notoxus maerens Westwood, 1849, White's Nomen. Coleopt. Ins., Cleridae, (4):57.
Notoxus moerens Westwood, 1852, Proc. Zool. Soc. Lond., p. 50; Chevrolat, 1874, Rev. Mag. Zool., p. 285; Blackburn, 1900, Trans. Roy. Soc. So. Australia, 24:136.
Tillus picipennis Westwood, 1849, White's Nomen. Coleopt. Inst. Brit. Mus., Cleridae, (4):57; LeConte, 1873, Proc. Acad. Nat. Sci. Phila., 25:334.
Tarsostenus biguttatus Montrouzeri, 1860, Ann. Ent. Soc. France, (3)8:260; Fauvel, 1875, Bull. Ent. Soc. France, (50):91.
Opilus incertus Macleay, 1872, Trans. Ent. Soc. New South Wales, 2:269; Elston, 1922, Australian Coleopt., III, 46:315.

T. univittatus is cosmopolitan to the extent that it follows the range of the coleopterous genus *Lyctus*, on which it is predaceous. This species is probably locally abundant on the peninsula and is recorded from Lower California for the first time on the basis of a single specimen in the University of California collection, labeled "L. Cal." It seems that the genus *Tarsostenus* contains but this single species, which offers no difficulty in identification.

Type locality: Italy[1].

Recorded distribution: Cosmopolitan in the tropical and temperate regions of the world.

New records: Lower California.

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